

**In the Specification**

Applicant presents replacement paragraphs below indicating the changes with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

**Please change the title as follows:**

DEVICE FOR ~~RECORDING~~ DETECTING THE PARAMETERS OF AN AEROSOL,  
IN PARTICULAR IN INHALATION THERAPY DEVICES

**Please replace paragraph 1 on page 1 with the amended paragraph as follows:**

The invention relates to a device for ~~record~~-detecting the parameters of an aerosol, in particular in inhalation therapy devices.

**Please replace paragraph 5 on page 1 with the amended paragraph as follows:**

In view of the above, it is the object of the invention to specify a device for ~~record~~ detecting the parameters of an aerosol and, in particular, an inhalation therapy device having such a device, in which the analysis of detection signals and the control of nebulisation based thereon is simplified.

**Please replace paragraph 7 on page 2 with the amended paragraph as follows:**

- Fig. 1 shows an inhalation therapy device having a ~~record~~-detecting device according to the invention,
- Fig. 2 shows a view of the arrangement of the transmitter and receivers of a ~~record~~ detecting device according to the invention, and
- Fig. 3 shows a further inhalation therapy device having a ~~record~~-detecting device according to the invention.

**Please replace paragraph 3 on page 3 with the amended paragraph as follows:**

As shown in Fig. 1, a transmitting means 7, a first receiving means 8 and a second receiving means 9 are disposed, according to the invention, on the mouthpiece 5. Owing to the spatial arrangement of the transmitting means and the two receiving means, an area is defined in the interior of the mouthpiece, in which the parameters of an aerosol that rests here can be ~~record~~ detected by the transmitter/receiver arrangement. This area is referred to as aerosol resting area A in this description of an embodiment of the invention.

**Please replace paragraph 1 on page 5 with the amended paragraph as follows:**

Finally, it can be seen in Fig. 2 how the second receiving means 9 is arranged on a third wall section 15 of the mouthpiece 5 such that said second receiving means 9 primarily receives, through the ~~second~~ third wall section 15, the proportion of light emitted into the aerosol resting area A, which comes from the transmitting means 7 and is scattered by the aerosol particles or droplets. This light is called scattered light SL in this description. If no aerosol is present in the aerosol resting area A, i.e. in the interior of the mouthpiece 5 in the embodiment described here, only a small amount of the light emitted by the transmitting means 7 reaches the second receiving means 9; the second receiving means 9 thereupon emits a low output signal  $I_{SL}$ . Since the light emitted by the transmitting means 7 is scattered to a greater extent as the aerosol density in the aerosol resting area A increases, increasingly more light reaches the second receiving means 9. The output signal  $I_{SL}$  of the second receiving means 9 increases as the aerosol density in the aerosol resting area increases.

**Please replace paragraph 2 on page 5 with the amended paragraph as follows:**

It is less important for the arrangement of the second receiving means 9 on the mouthpiece 5 whether the mouthpiece is produced from a transparent or translucent material. However, the light preferably falls through a translucent material into the second receiving means 9. Reference is made in this regard to the explanations regarding the transmitting means 7 and the first wall section 13, which accordingly also apply to the second receiving means 9 and the ~~second~~ third wall section 15. Particularly economical is again a mouthpiece 5 that is made of a translucent material, which renders a further translucent material on the second receiving means 9 unnecessary.

**Please replace paragraph 2 on page 6 with the amended paragraph as follows:**

If calibration is carried out, the aerosol density is also to be absolutely determined as a third parameter from the output signals  $I_{SL}$ ,  $I_{TL}$  and  $I_{SL}$ .

**Please replace paragraph 3 on page 6 with the amended paragraph as follows:**

The control method described in DE 100 22 795 A can essentially also be carried out based on the two output signals  ~~$I_{SL}$~~  $I_{TL}$  and  $I_{SL}$ . Particularly suitable in this regard is an inhalation therapy device having a membrane nebuliser, as shown, for example, in Fig. 3. In order to control nebulisation, the control means 10 is connected with the compressor 2 and with the excitation device 56.

**Please replace paragraph 4 on page 6 with the amended paragraph as follows:**

For this purpose, the quotient

$$Q_A = I_{SL}/I_{TL}$$

is preferably formed from the first and second output signals  ~~$I_{SL}$~~  $I_{TL}$  and  $I_{SL}$  in the control means 10. The effect of ambient light and temperature fluctuations on the transmitting and receiving means 7, 8 and 9 is thereby eliminated, or is at least clearly reduced.